Air Force SBIR Impact

Giving Satellites a Smoother Ride to Orbit

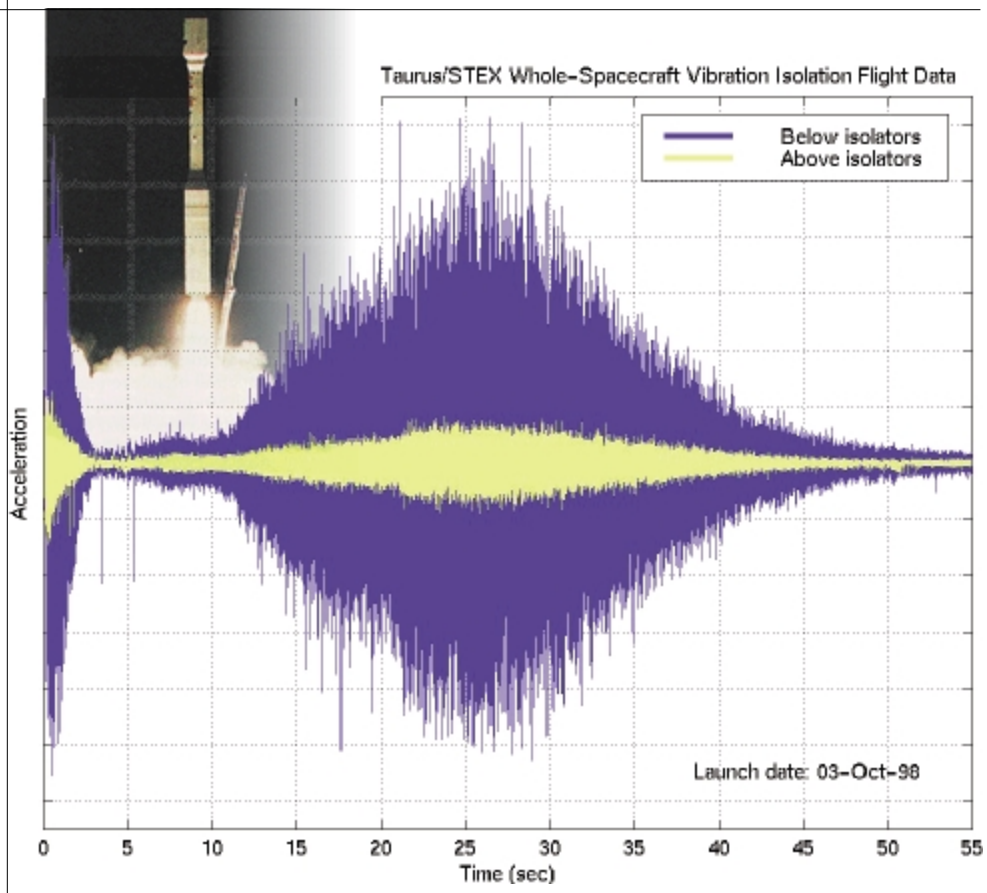
Company:
CSA Engineering, Inc.

Location:
Mountain View, CA

Employees:
33

President:
Conor D. Johnson, Ph.D.

Project Officer:
Eugene Fosness, AFRL Space Vehicles Directorate, Kirtland AFB, NM



SBIR Technology

The most stressing event that a satellite undergoes is its launch into orbit. The high dynamic loads and vibrations resulting from the severe launch environment account for much of the expense of designing, qualifying, and testing satellites and satellite components. The Air Force sought technology that could reduce the high vibrations seen by a satellite during launch, thereby allowing more concentration on orbital performance rather than launch survival. Reductions of dynamic launch loads greatly reduce the risk that the satellite and its instruments will be damaged from vibration during their ascent into orbit.

CSA Engineering used SBIR contracts to develop, test and advance to flight status passive isolation devices used to "vibration isolate" a complete satellite from the launch vehicle. The technology has been shown to reduce some critical dynamic loads on the spacecraft to as little

For more information on this story, contact Air Force TechConnect at 1-800-203-6451 or at www.afrl.af.mil/techconn/index.htm

as 20 percent of their original magnitude. The CSA system was used during two 1998 spacecraft flights. It is estimated this technology saved over $14 million and many months for these two missions alone. The developed technology is equally applicable to small, solid-fueled launch vehicles as well as large, liquid-fueled launch vehicles.

Company Impact

- CSA Engineering has received approximately $10 million in military and commercial contracts that are directly related to its SBIR work.
- The commercial potential for this innovative technology continues to grow with whole families of military and commercial launch vehicles requiring the vibration isolation technology.

Company Quote

"This technology has the potential of saving tens of millions of dollars by reducing the dynamic loads on satellites during launch. The SBIR program allowed us to develop this high-risk, high-payoff technology."

Conor D. Johnson, Ph.D.
President
CSA Engineering, Inc.

SBIR

AF SBIR Program Manager
AFRL/XPTT
1864 4th Street, Suite 1, Building 15
Wright-Patterson AFB, OH 45433

AF SBIR Program Manager: Steve Guilfoos
e-mail: steve.guilfoos@afrl.af.mil

Web site: www.tto.wpafb.af.mil/TTO/sbir/index.htm

DSN: 785-0838
DSN Fax: 785-2329
T: (800) 222-0336
F: (937) 255-2329

Air Force Research Laboratory | AFRL
Science and Technology for Tomorrow's Aerospace Force

AF Topic# BMDO 92-00
Sec. Rev.# PL 95-0608
AFRL 99-026
Impact Story IS#3.0 – 03/00